

In the Claims

Canceled Claims

Claims Please cancel claims 12-17 and 18-20 as being drawn to non-elected groups II and III. Applicant expressly reserves the right to file divisional applications directed at the non-elected subject matter.

Current Status of Claims

1 1.(currently amended) A method of prevention sulfidation of metals comprising the
2 steps of:

3 adding to a fluid including a sulfiding compound an effective amount of a
4 preventative composition, where the composition reduces or prevents sulfidation by
5 deactivating metal sites involved in the formation of atomic sulfur and/or sulfides at or on
6 a surface of the metal and where the effective amount of the preventative composition is
7 between about 0.2 ppm and about 0.8 ppm.

1 2.(currently amended) A method of stopping sulfidation of metals comprising the steps
2 of:

3 adding to a fluid including a sulfiding compound an effective amount of a
4 preventative composition, where the composition stops or arrests further sulfidation of the
5 metal by deactivating metal sites involved in the formation of atomic sulfur and/or sulfides
6 at or on a surface of the metal and where the effective amount of the preventative
7 composition is between about 0.2 ppm and about 0.8 ppm.

1 3.(withdrawn)

1 4.(withdrawn)

1 5.(currently amended) The method of claims 1-2, wherein the composition comprises
2 a compound having a higher affinity for the metal surface than the sulfiding compound.

1 6.(currently amended) The method of claims 1-2, wherein the composition comprises
2 an effective amount of a phosphorus in the form of a phosphorus-containing compound to
3 reduce sulfidation of the metal.

1 7.(canceled)

1 8.(canceled)

1 9.(canceled)

1 10.(canceled)

1 11.(canceled)

1 12.(canceled)

1 13.(currently amended) The method of claim 8 6, wherein the phosphorus-containing
2 compound comprises phosphorus, phosphines of formulas PH_3 , PRH_2 , PR_2H , and R_3P where
3 each R is the same or different and is a C1 to C20 carbon-containing group including alkyl,
4 aryl, alkaryl or aralkyl; phosphites including ammonium phosphites; alkali metal phosphites;
5 alkaline metal phosphites; phosphites having organic counter ions; phosphates including
6 ammonium phosphates; alkali metal phosphates; alkaline metal phosphates; phosphates
7 having organic counter ions; pyrophosphates including ammonium pyrophosphates; alkali
8 metal pyrophosphates; alkaline metal pyrophosphates; pyrophosphates having organic
9 counter ions; polyphosphates including ammonium polyphosphates; alkali metal
10 polyphosphates; alkaline metal polyphosphates; polyphosphates having organic counter ions;
11 thiophosphates; thiophosphites; or other phosphorus-containing compounds capable of

12 inhibiting sulfuric corrosion of metal surfaces, or mixtures or combinations thereof.

1 14.(original) A method of pre-treating metal surfaces comprising the steps of:

2 contacting a metal surface with an effective amount of a pre-treating composition
3 sufficient to deposit onto the metal surface a protective coating, where the coating prevents
4 or reduces sulfidation of the metal by deactivating metal sites involved in the formation of
5 atomic sulfur and/or sulfides at or on the surface, where the effective amount of the
6 preventative composition is between about 0.2 ppm and about 0.8 ppm.

1 15.(original) The method claim 14, wherein the pre-treating composition comprises an
2 organo-phosphorus compound and the method further comprising the step of:

3 oxidizing the organo-phosphorus compound to a phosphorus oxide compound.

1 16.(original) The method claim 14, wherein the composition comprises a compound having
2 a higher affinity for the metal surface than the sulfiding compound.

1 17.(original) The method claims 14, wherein the composition comprises an effective amount
2 of phosphorus in the form of a phosphorus-containing compound.

1 18.(canceled) The method claims 14, wherein the effective amount of the phosphorus
2 is between about 0.1 ppm and about 5 ppm in the fluid.

1 19.(canceled) The method claims 14, wherein the effective amount of the phosphorus
2 is between about 0.2 ppm and about 0.8 ppm.

1 20.(currently amended) The method claims 14, wherein the phosphorus-containing
2 compound comprises phosphorus, phosphines of formulas PH_3 , PRH_2 , PR_2H , and R_3P where
3 each R is the same or different and is a C1 to C20 carbon-containing group including alkyl,

4 aryl, alkaryl or aralkyl; phosphites including ammonium phosphites; alkali metal phosphites;
5 alkaline metal phosphites; phosphites having organic counter ions; phosphates including
6 ammonium phosphates; alkali metal phosphates; alkaline metal phosphates; phosphates
7 having organic counter ions; pyrophosphates including ammonium pyrophosphates; alkali
8 metal pyrophosphates; alkaline metal pyrophosphates; pyrophosphates having organic
9 counter ions; polyphosphates including ammonium polyphosphates; alkali metal
10 polyphosphates; alkaline metal polyphosphates; polyphosphates having organic counter ions;
11 thiophosphates; thiophosphites; or other phosphorus-containing compounds capable of
12 inhibiting sulfuric corrosion of metal surfaces, or mixtures or combinations thereof.